APPENDIX

IN THE CLAIMS:

New claims 28-35 have been added; and claims 1, 9, 17 and 25-27 have been amended as follows:

1. (Twice Amended) An apparatus for converting an input voice signal into an output voice signal according to a reference voice signal, the apparatus comprising:

extracting means for extracting a plurality of sinusoidal wave components from the input voice signal, [including frequencies of the sinusoidal wave components of the input voice signal] the sinusoidal wave components being spectral wave components of the input voice and in the form of at least frequency value coordinates;

memory means for memorizing reference pitch information representative of a pitch of the reference voice signal;

modulating means for modulating [frequencies] the frequency value coordinates of the sinusoidal wave components of the input voice signal according to the reference pitch information retrieved from the memory means; and

mixing means for mixing the plurality of the sinusoidal wave components having the modulated [frequencies] frequency value coordinates to synthesize the output voice signal having a pitch different from that of the input voice signal and influenced by that of the reference voice signal.

9. (Twice Amended) An apparatus for converting an input voice signal into an output voice signal according to a reference voice signal, the apparatus comprising:

extracting means for extracting a plurality of sinusoidal wave components from the input voice signal, [including amplitudes of the sinusoidal wave components of the input voice signal] the sinusoidal wave components being spectral wave components of the input voice and in the form of at least amplitude value coordinates;

memory means for memorizing reference amplitude information representative of amplitudes of sinusoidal wave components contained in the reference voice signal;

modulating means for modulating [amplitudes] the amplitude value coordinates of the sinusoidal wave components of the input voice signal extracted from the input voice signal according to the reference amplitude information retrieved from the memory means; and

mixing means for mixing the plurality of the sinusoidal wave components having the modulated [amplitudes] amplitude value coordinates to synthesize the output voice signal having a timbre different from that of the input voice signal and influenced by that of the reference voice signal.

17. (Twice Amended) An apparatus for synthesizing an output voice signal from an input voice signal and a reference voice signal, the apparatus comprising:

an analyzer device that analyzes a plurality of sinusoidal wave components contained in the input voice signal to derive a parameter set of an original frequency and an original amplitude, the sinusoidal wave components being spectral wave components of the input voice,

[each pair of the original frequency and the original amplitude] the parameter set representing a corresponding sinusoidal wave component;

a source device that provides reference information characteristic of the reference voice signal[, including at least one of reference pitch information and reference amplitude information];

a modulator device that modulates the parameter set of the sinusoidal wave components according to the reference information; and

a regenerator device that operates according to each of the parameter sets as modulated to regenerate each of the sinusoidal wave components so that at least one of the frequency and the amplitude of each sinusoidal wave component as regenerated varies from the original one, and that mixes the regenerated sinusoidal wave components [altogether] together to synthesize the output voice signal.

25. (Twice Amended) A method of converting an input voice signal into an output voice signal according to a reference voice signal, the method comprising the steps of:

extracting a plurality of sinusoidal wave components from the input voice signal, [including frequencies of the sinusoidal wave components of the input voice signal] the sinusoidal wave components being spectral wave components of the input voice and in the form of at least frequency value coordinates

memorizing reference pitch information representative of a pitch of the reference voice signal;

modulating [frequencies] the frequency value coordinates of the sinusoidal wave components of the input voice signal according to the reference pitch information; and

mixing the plurality of the sinusoidal wave components having the modulated [frequencies] frequency value coordinates to synthesize the output voice signal having a pitch different from that of the input voice signal and influenced by that of the reference voice signal.

26. (Twice Amended) A method of converting an input voice signal into an output voice signal according to a reference voice signal, the method comprising the steps of:

extracting a plurality of sinusoidal wave components from the input voice signal, [including amplitudes of the sinusoidal wave components of the input voice signal] the sinusoidal wave components being spectral wave components of the input voice and in the form of at least amplitude value coordinates;

memorizing reference amplitude information representative of amplitudes of sinusoidal wave components contained in the reference voice signal;

modulating [amplitudes] the amplitude value coordinates of the sinusoidal wave components of the input voice signal extracted from the input voice signal according to the reference amplitude information retrieved from the memory means; and

mixing the plurality of the sinusoidal wave components having the modulated [amplitudes] amplitude value coordinates to synthesize the output voice signal having a timbre different from that of the input voice signal and influenced by that of the reference voice signal.

27. (Amended) A machine readable medium used in a computer machine having a CPU for synthesizing an output voice signal from an input voice signal and a reference voice signal, the medium containing program instructions executed by the CPU for causing the computer machine to perform the method comprising the steps of:

analyzing a plurality of sinusoidal wave components contained in the input voice signal to derive a parameter set of an original frequency and an original amplitude, the sinusoidal wave components being spectral wave components of the input voice, the parameter set representing [each] a corresponding sinusoidal wave component;

providing reference information characteristic of the reference voice signal[, including at least one of reference pitch information and reference amplitude information];

modulating the parameter set of the sinusoidal wave components according to the reference information; and

regenerating each of the sinusoidal wave components according to each of the modulated parameter sets so that at least one of the frequency and the amplitude of each regenerated sinusoidal wave component varies from the original one, and

mixing the regenerated sinusoidal wave components [altogether] together to synthesize the output voice signal.

--28. The apparatus as claimed in claim 17, wherein the parameter set is in the form of a plurality of frequency value and amplitude value coordinates, the frequency value coordinates representing the original frequency and the amplitude value coordinates representing the original amplitude.--

--29. The machine readable medium as claimed in claim 27, wherein the parameter set is in the form of a plurality of frequency value and amplitude value coordinates, the frequency value coordinates representing the original frequency and the amplitude value coordinates representing the original amplitude.--

--30. The apparatus as claimed in claim 1, wherein the extracting means utilizes Fast Fourier Transform and a peak detecting means to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the frequency value coordinates.--

--31. The apparatus as claimed in claim 9, wherein the extracting means utilizes Fast Fourier Transform and a peak detecting means to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the amplitude value coordinates.--

--32. The apparatus as claimed in claim 17, wherein the analyzer device utilizes Fast Fourier Transform and a peak detecting means to derive the parameter set representing the corresponding sinusoidal wave component, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the parameter set.--

--33. The method as claimed in claim 25, wherein the extracting step involves utilizing Fast Fourier Transform and peak detection to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the frequency value coordinates.--

--34. The method as claimed in claim 26, wherein the extracting step involves utilizing Fast Fourier Transform and peak detection to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the amplitude value coordinates.--

--35. The machine readable medium as claimed in claim 27, wherein the analyzing step involves utilizing Fast Fourier Transform and peak detection to derive the parameter set representing the corresponding sinusoidal wave component, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the parameter set.--

27. (Amended) A machine readable medium used in a computer machine having a CPU for synthesizing an output voice signal from an input voice signal and a reference voice signal, the medium containing program instructions executed by the CPU for causing the computer machine to perform the method comprising the steps of:

analyzing a plurality of sinusoidal wave components contained in the input voice signal to derive a parameter set of an original frequency and an original amplitude, the sinusoidal wave components being spectral wave components of the input voice, the parameter set representing a corresponding sinusoidal wave component;

providing reference information characteristic of the reference voice signal;

modulating the parameter set of the sinusoidal wave components according to the reference information; and

regenerating each of the sinusoidal wave components according to each of the modulated parameter sets so that at least one of the frequency and the amplitude of each regenerated sinusoidal wave component varies from the original one, and

mixing the regenerated sinusoidal wave components together to synthesize the output voice signal.

Please add new claims 28-35 as follows:

--28. The apparatus as claimed in claim 17, wherein the parameter set is in the form of a plurality of frequency value and amplitude value coordinates, the frequency value coordinates representing the original frequency and the amplitude value coordinates representing the original amplitude.--

--29. The machine readable medium as claimed in claim 27, wherein the parameter set is in the form of a plurality of frequency value and amplitude value coordinates, the frequency value coordinates representing the original frequency and the amplitude value coordinates representing the original amplitude.--

--30. The apparatus as claimed in claim 1, wherein the extracting means utilizes Fast Fourier Transform and a peak detecting means to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the frequency value coordinates.--

--31. The apparatus as claimed in claim 9, wherein the extracting means utilizes Fast Fourier Transform and a peak detecting means to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the amplitude value coordinates.--

--32. The apparatus as claimed in claim 17, wherein the analyzer device utilizes Fast Fourier Transform and a peak detecting means to derive the parameter set representing the corresponding sinusoidal wave component, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detecting means detecting peaks in the frequency spectrum to extract the parameter set.--

--33. The method as claimed in claim 25, wherein the extracting step involves utilizing Fast Fourier Transform and peak detection to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the frequency value coordinates.--

--34. The method as claimed in claim 26, wherein the extracting step involves utilizing Fast Fourier Transform and peak detection to extract the plurality of sinusoidal components from the input voice signal, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the amplitude value coordinates.--

--35. The machine readable medium as claimed in claim 27, wherein the analyzing step involves utilizing Fast Fourier Transform and peak detection to derive the parameter set representing the corresponding sinusoidal wave component, the Fast Fourier Transform being carried in prescribed frame units to create a frequency spectrum successively for each frame of the input voice signal, the peak detection detecting peaks in the frequency spectrum to extract the parameter set.--